federación española de empresas de TECNOLOGÍA SANITARIA

MEDICAL DEVICE INNOVATION

Barcelona, 27 de octubre, 2015

Carlos Sisternas

Director FENIN Catalunya

GOBIERNO DE ESPAÑA
MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD

UNIÓN EUROPEA
FONDO EUROPEO DE DESARROLLO REGIONAL
UNA MANERA DE HACER EUROPA

PLATAFORMA ESPAÑOLA INNOVACIÓN TECNOLOGÍA SANITARIA

Qué es FENIN?

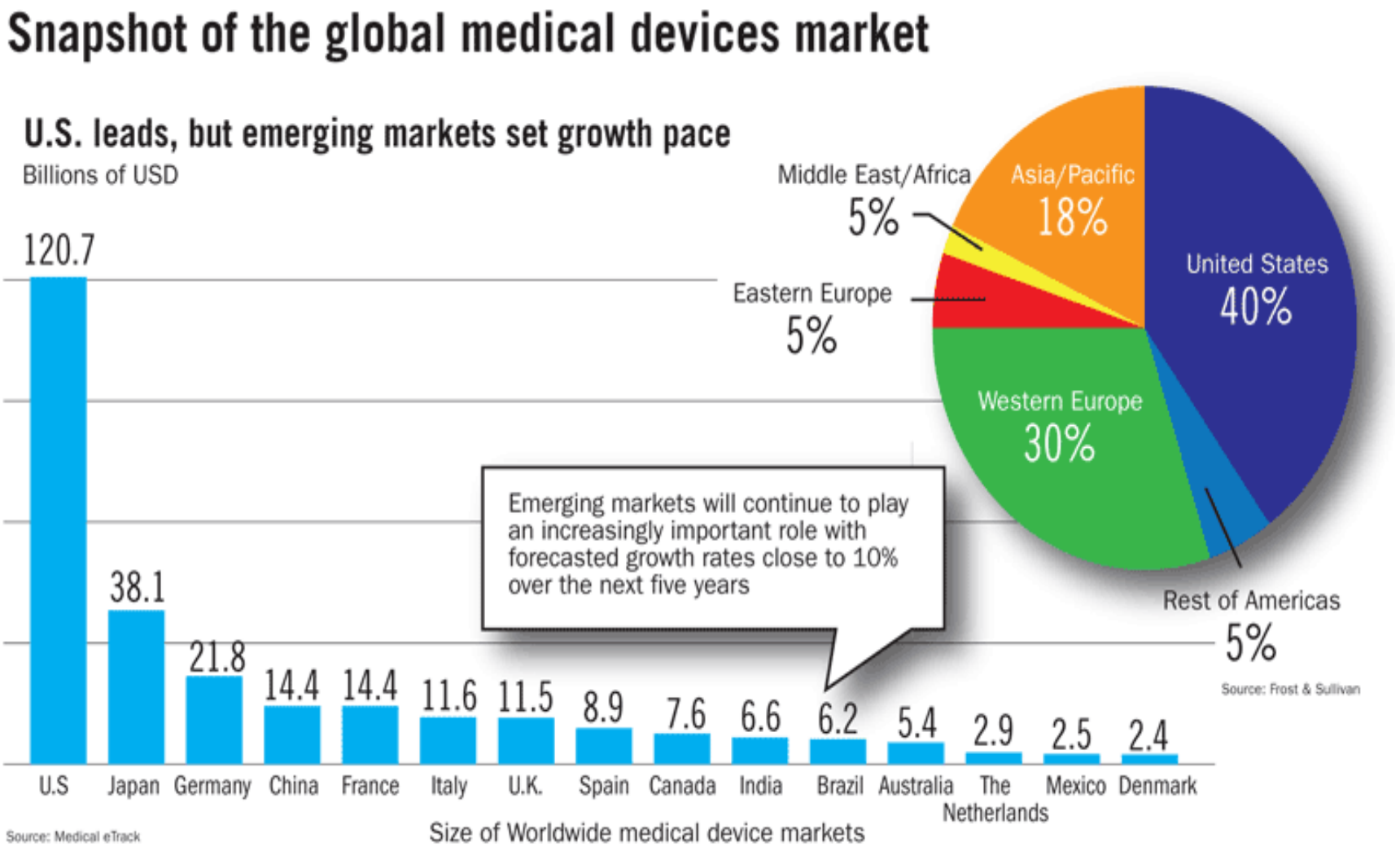
FENIN**, Federación Española de empresas de Tecnología Sanitaria, es la **asociación empresarial que representa en España a las empresas de Tecnología Sanitaria.

NUESTRA MISIÓN

Representar y promocionar, a todos los niveles, **los intereses del sector**, resaltando su "VALOR" y fomentando su "USO RACIONAL".

federación española de empresas de TECNOLOGÍA SANITARIA

Mercado de Tecnología Sanitaria



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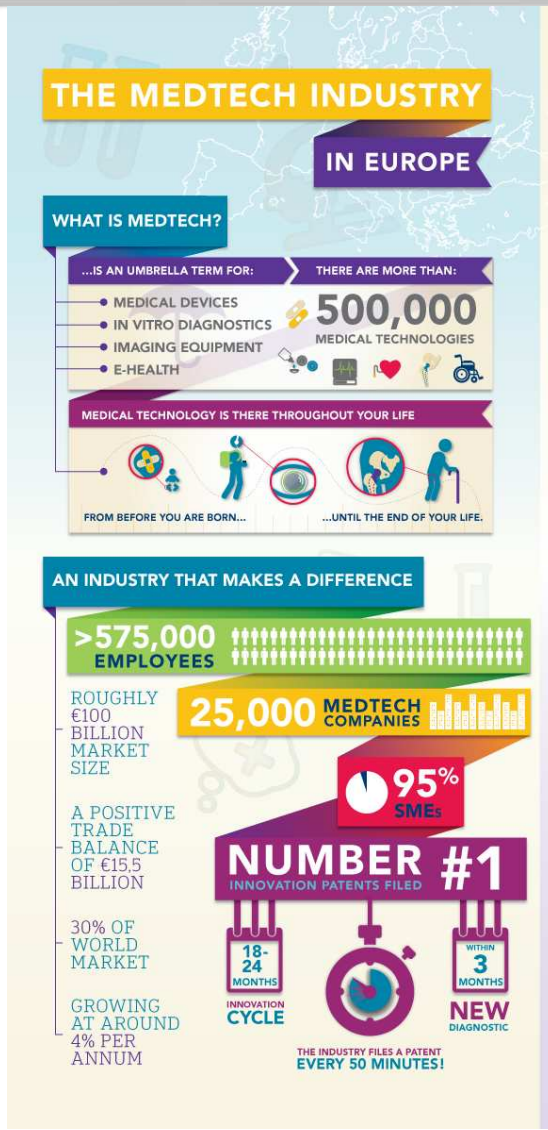
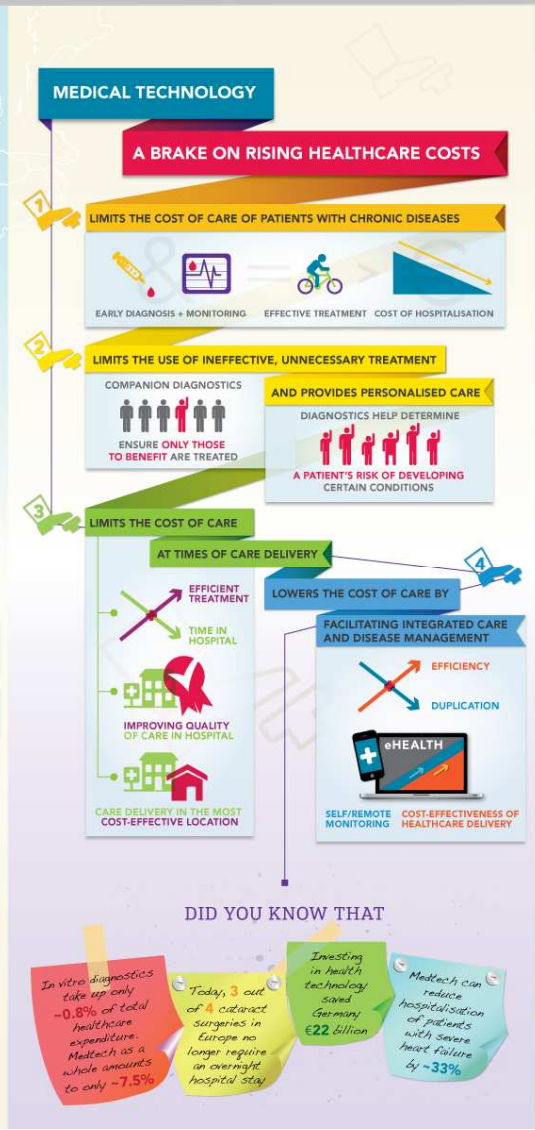
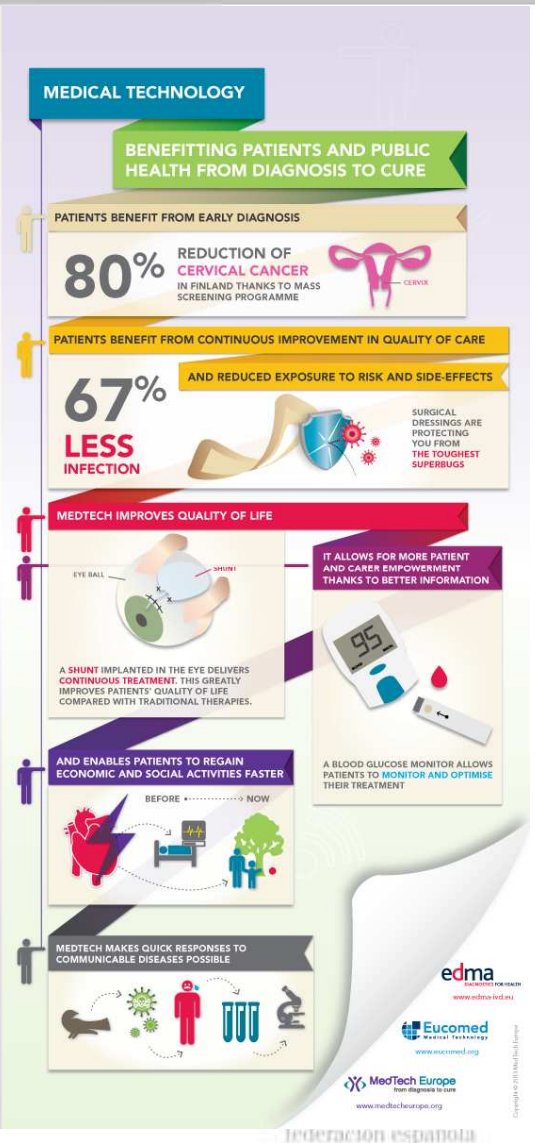
Mercado de Tecnología Sanitaria



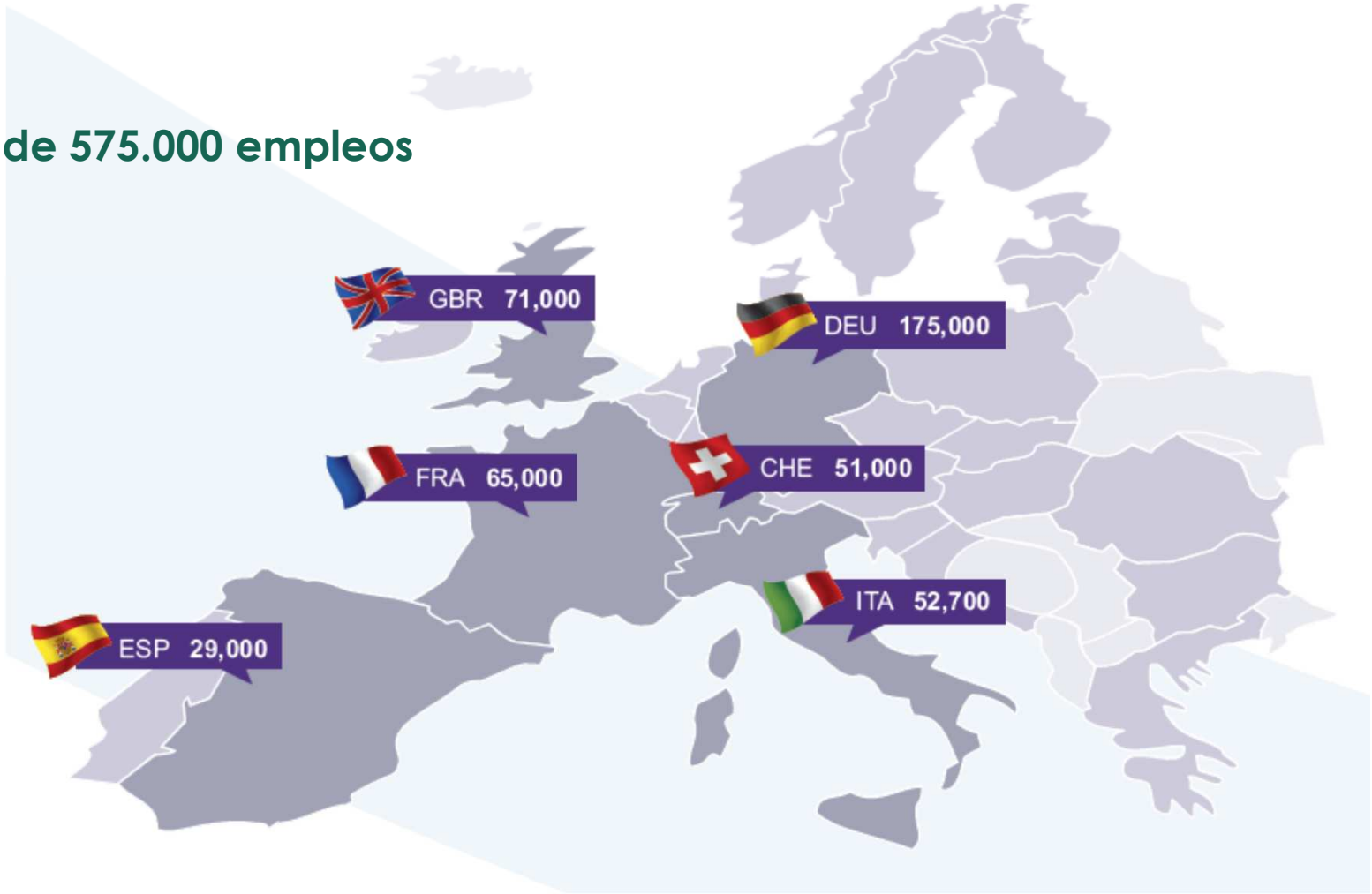




Federación Española de Empresas de Tecnología Sanitaria

Sector de Tecnología Sanitaria en Cifras

Más de 575.000 empleos



Fuente: EUCOMED, European Medtech Market 2012

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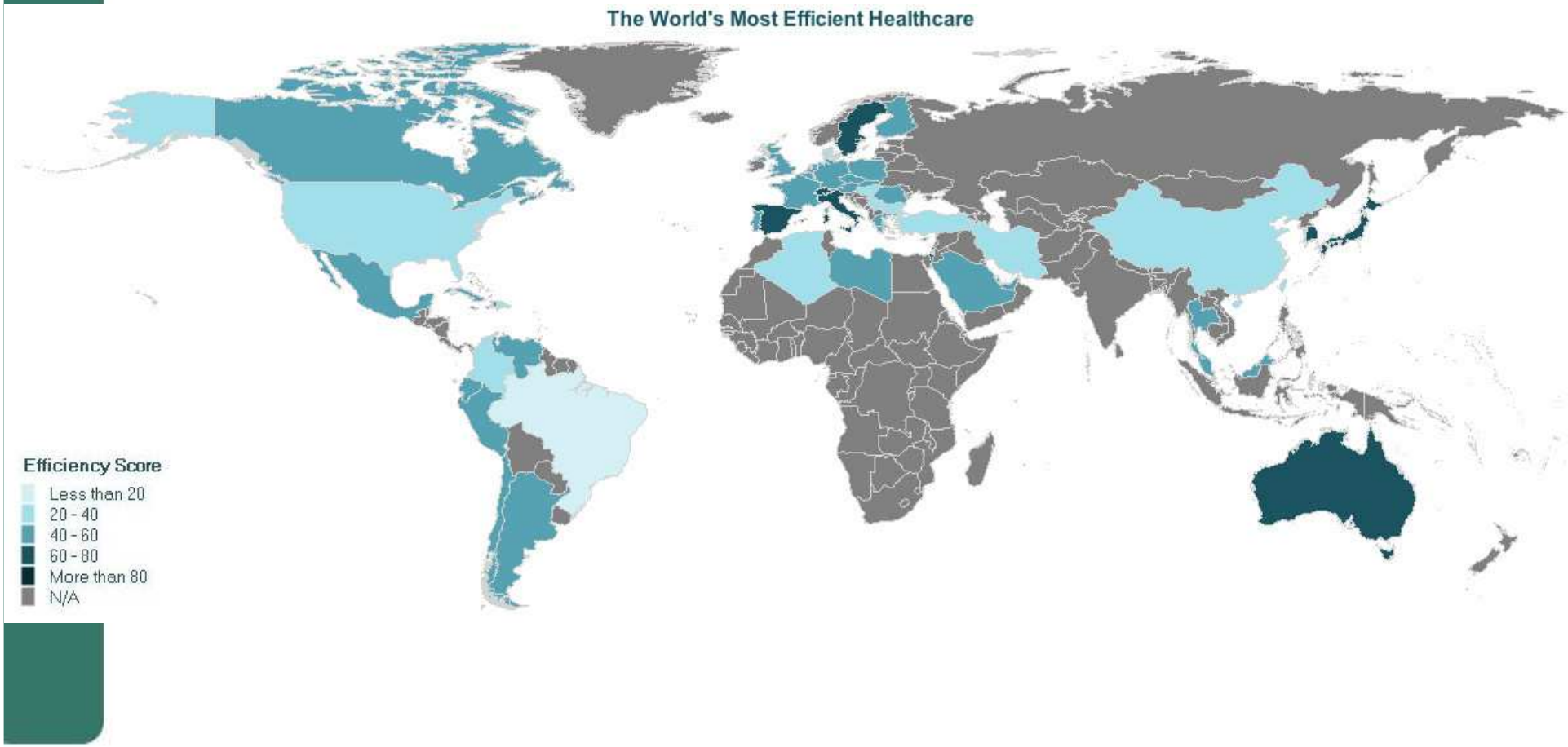
Eficiencia de los Sistemas Sanitarios



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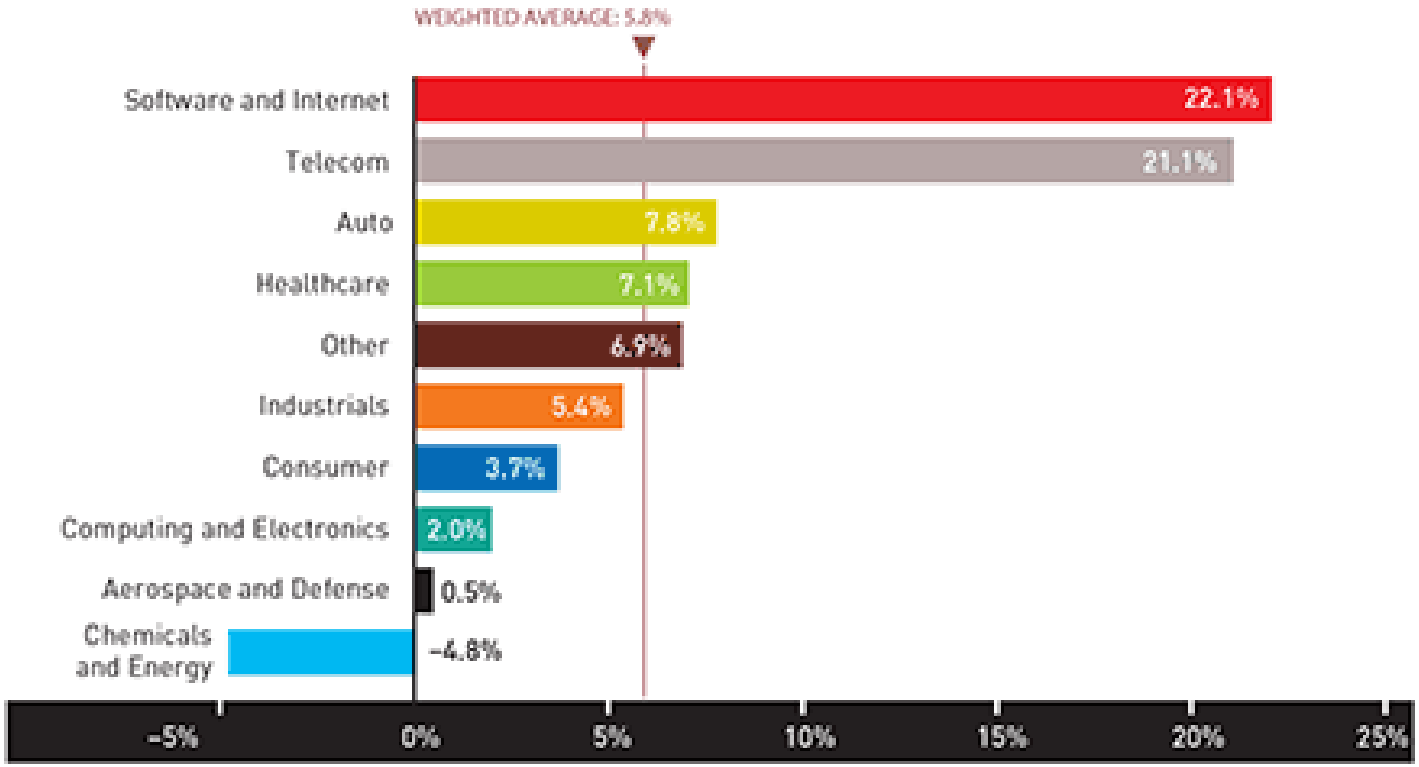
Evolución Gasto I+D+i

Exhibit D: **Change in R&D Spending by Industry, 2012–13**

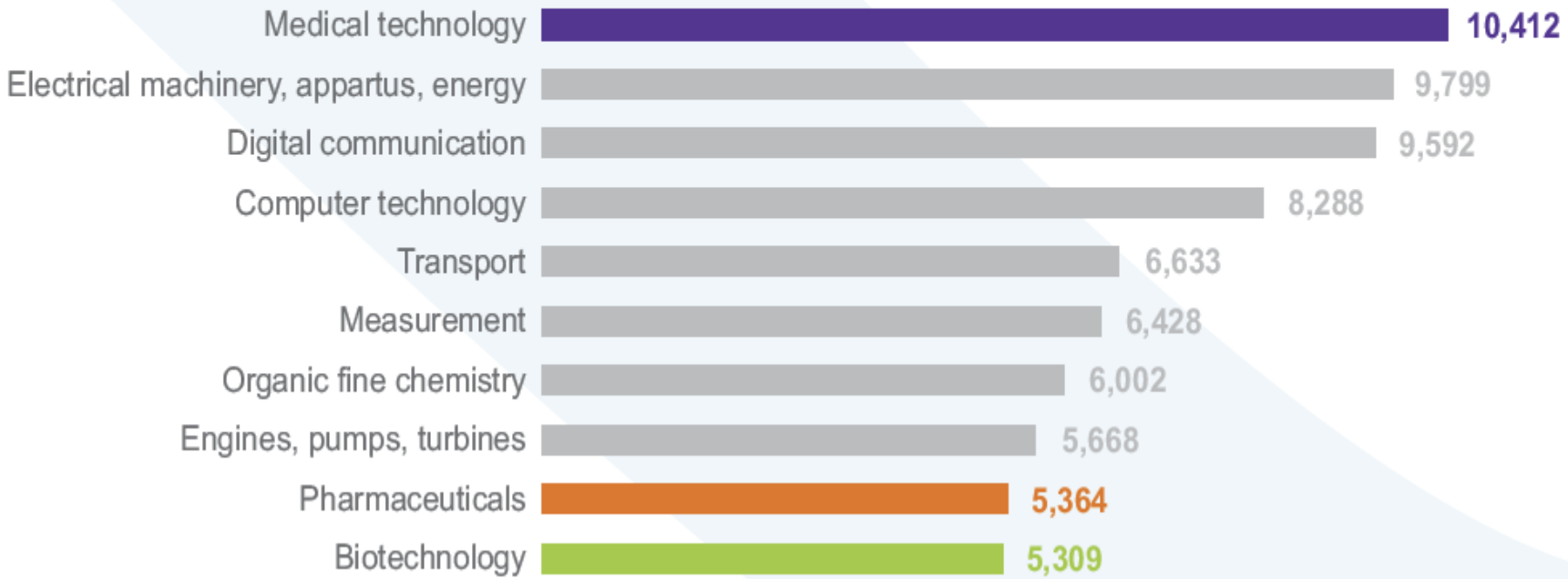
The software and Internet sector invested aggressively this year, growing its R&D spending by 22.1 percent.



Source: Bloomberg data, Capital IQ, Booz & Company

Qué sectores patentan más?

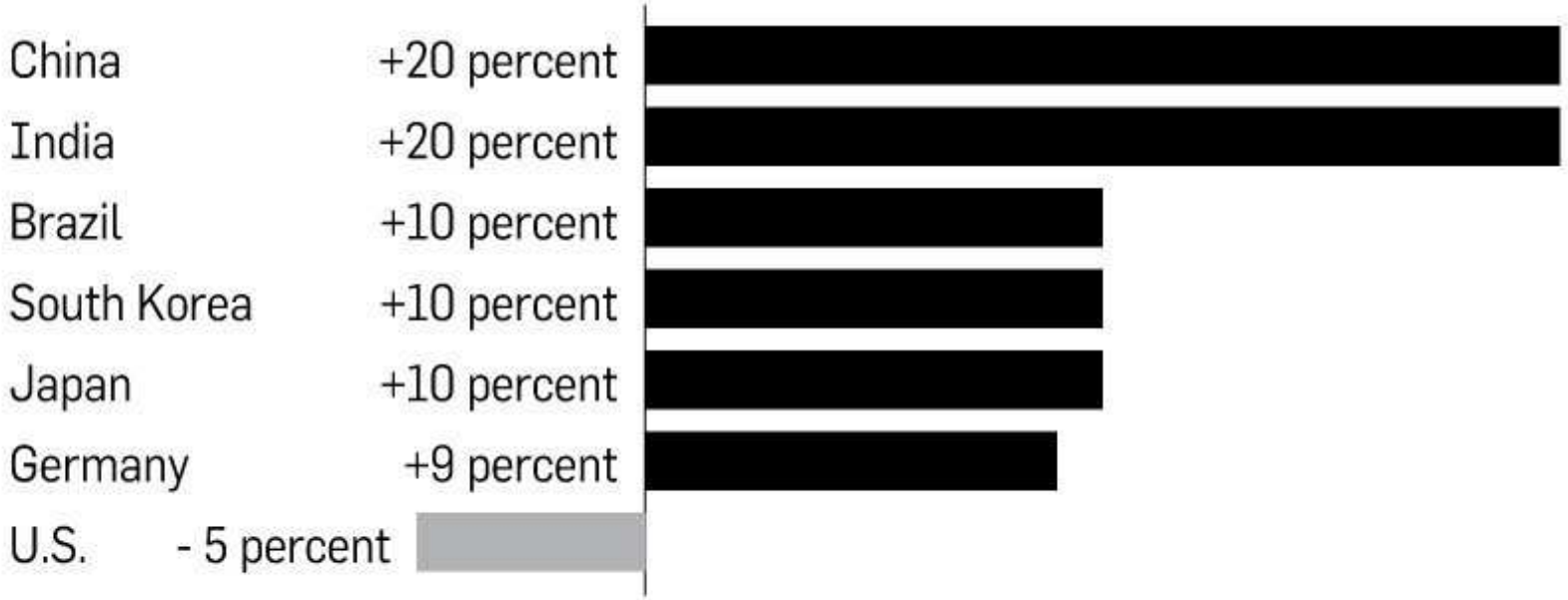
Top 10 technical fields in patent applications. Number of patent applications filed with EPO, 2012 [5]



Leaders

Forsaken research

The United States is cutting back its spending on biomedical research at a time when other countries are accelerating it.



Source: National Institute of Health

THE STAR-LEDGER

Navegar buscando ideas es divertido…

Sólo que es difícil encontrarlas…

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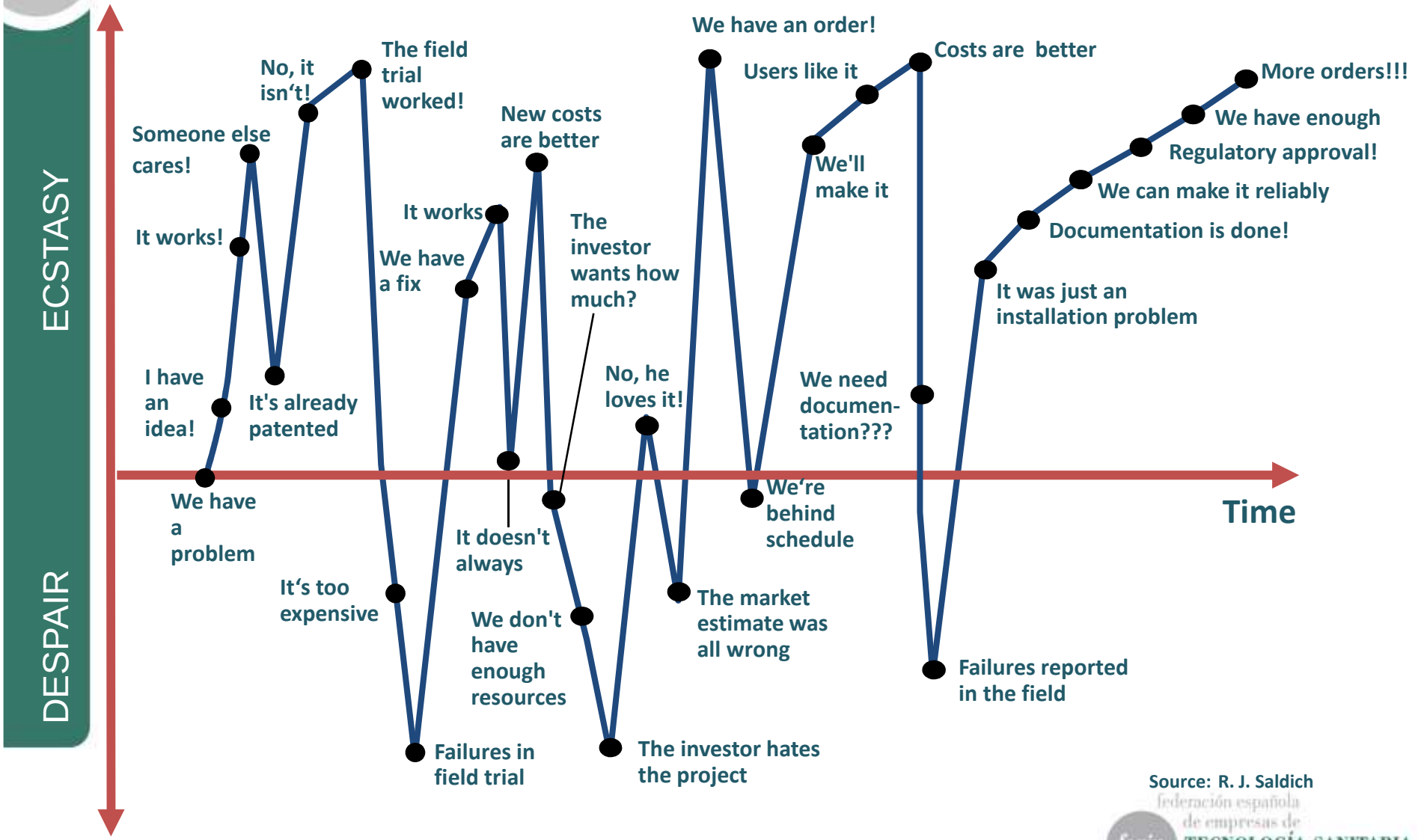
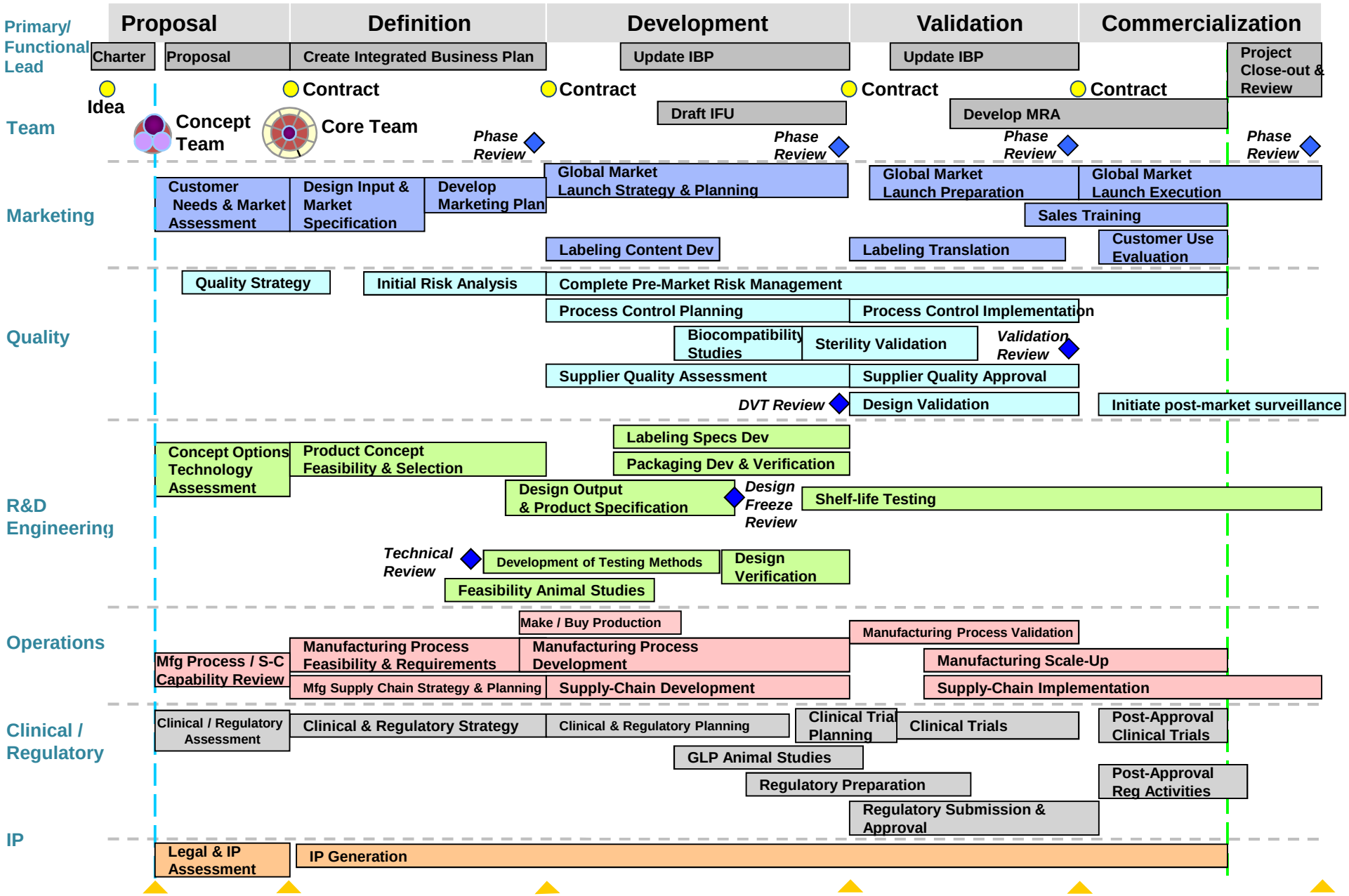
Es un viaje lleno de altibajos

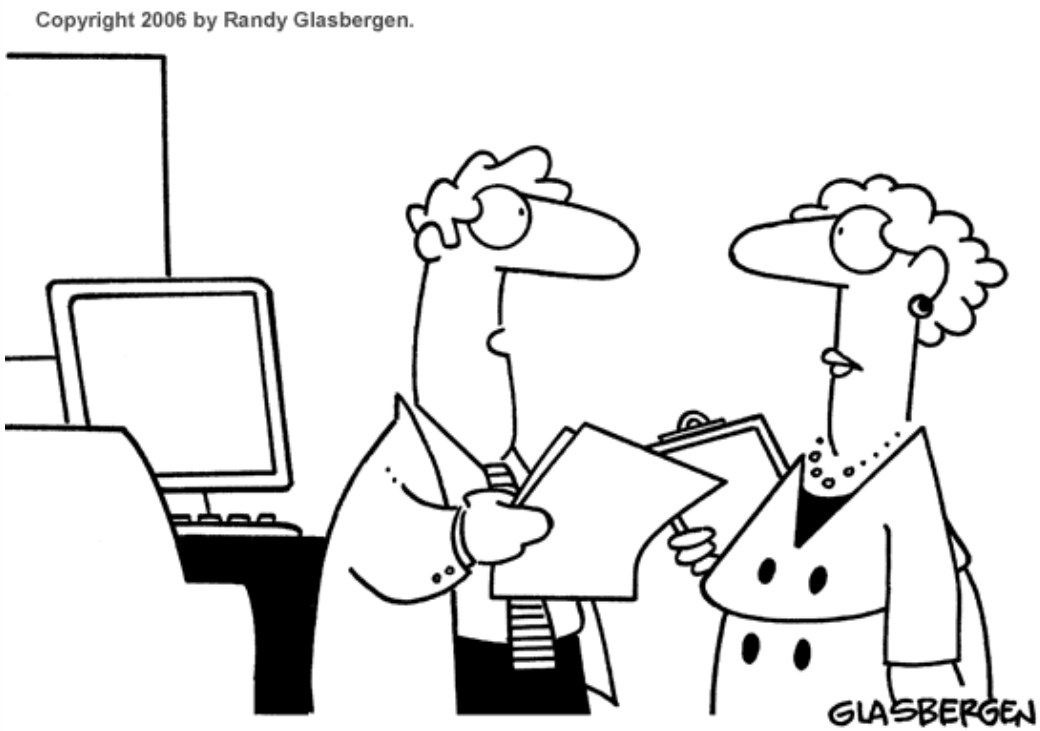


Source: R. J. Saldich

En el que necesitas un sistema de navegación…



La Industria busca cooperación con la Ciencia

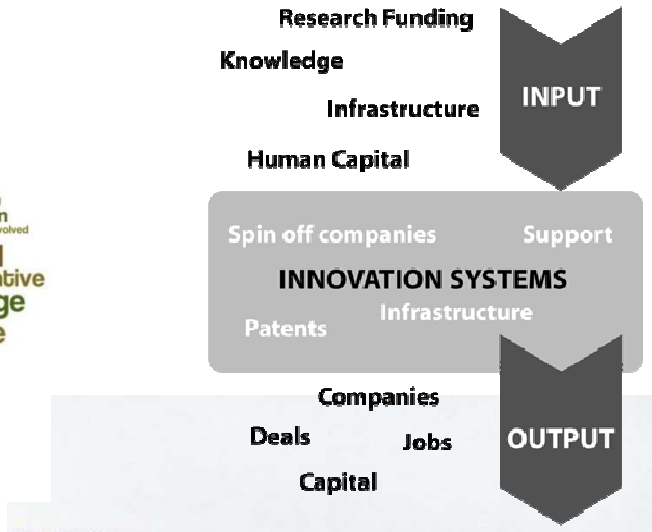


"My team has created a very innovative solution, but we're still looking for a problem to go with it."

But changes happen if they have real sense!

“Open Innovation” es una necesidad, no una moda

La innovación es…



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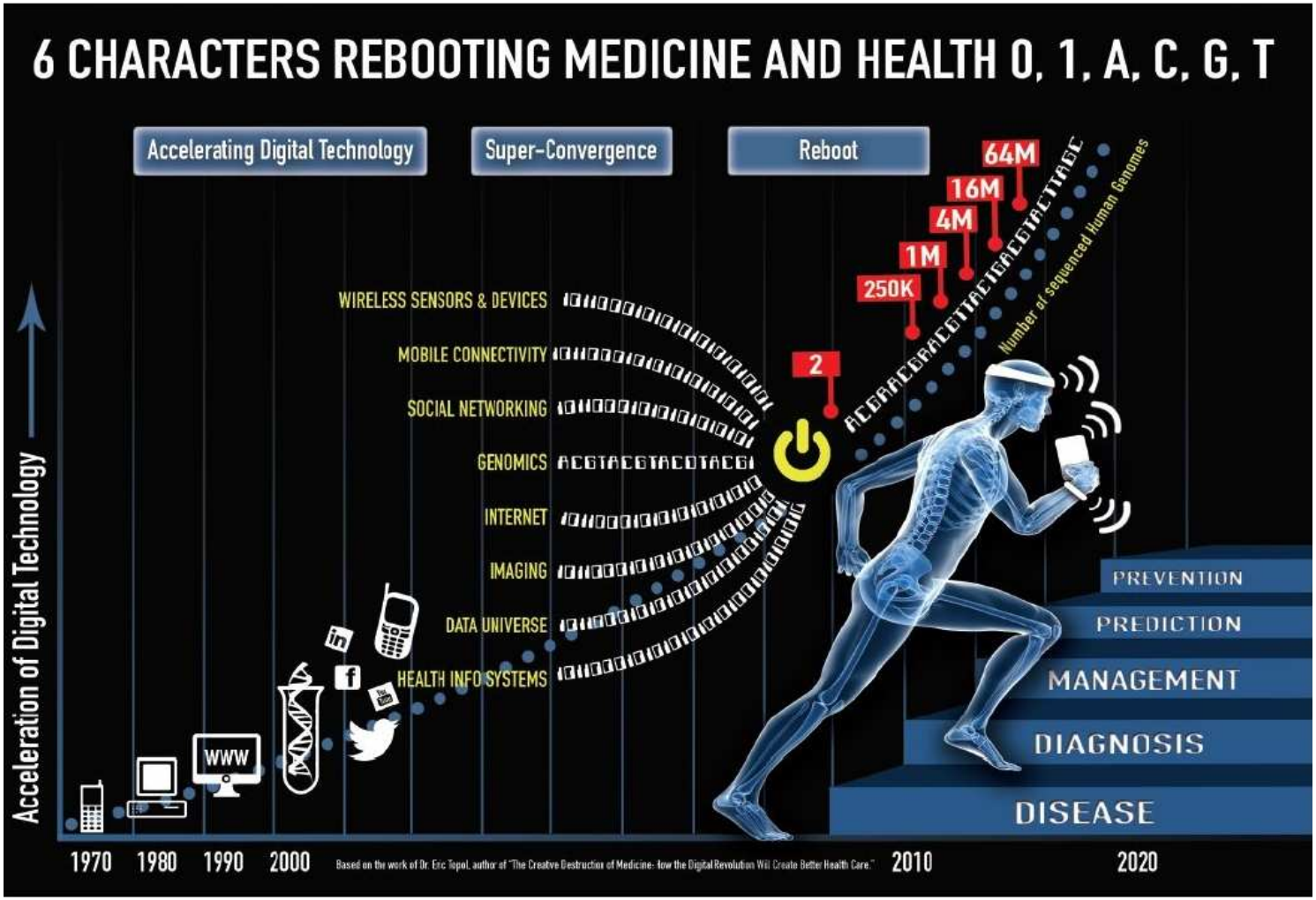
Tecnologías Convergentes…



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Tecnologías Convergentes…

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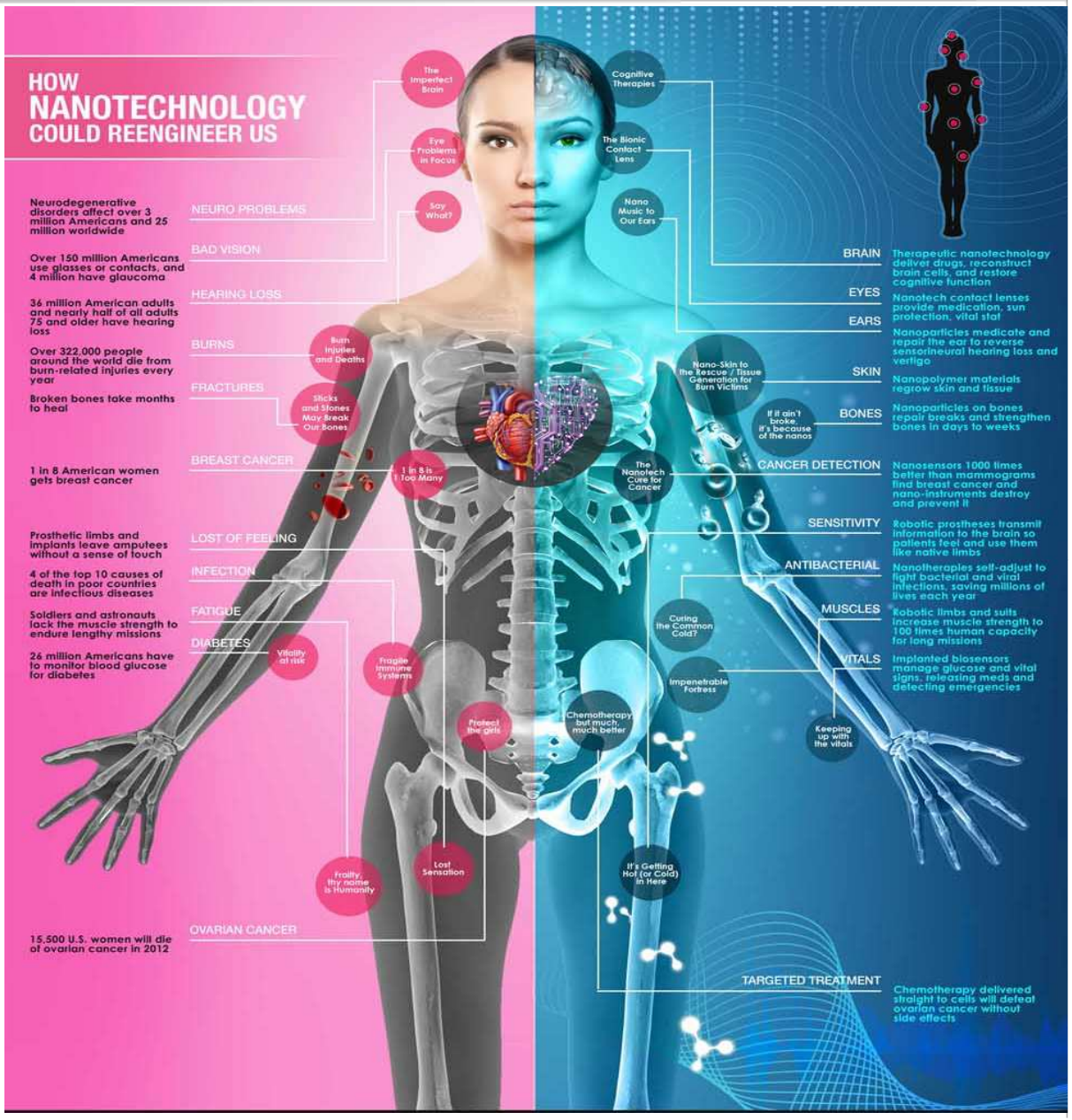
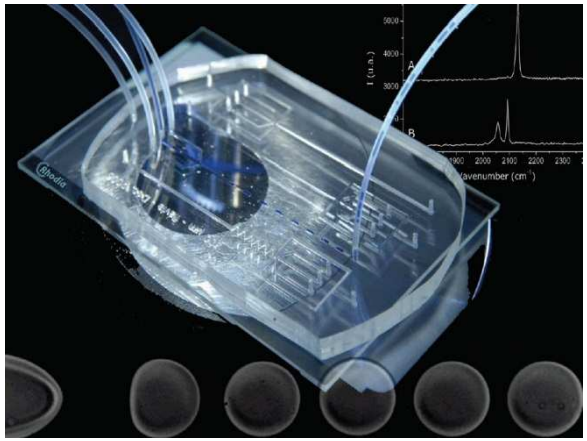
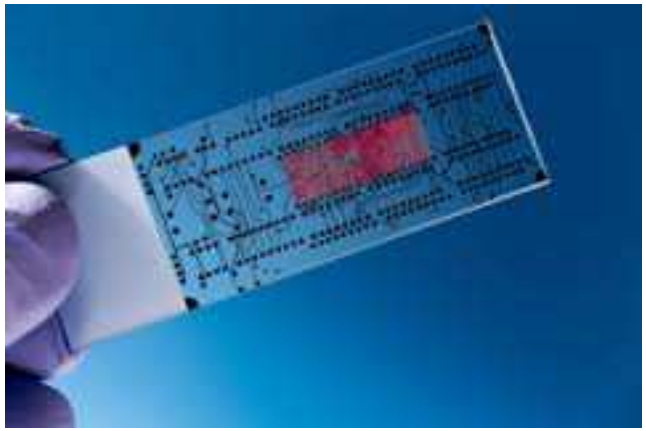
Nanotecnología

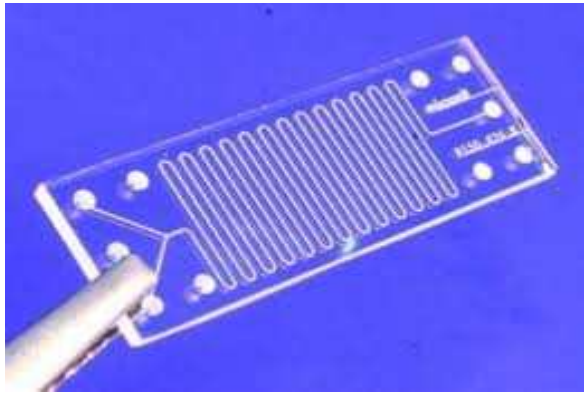


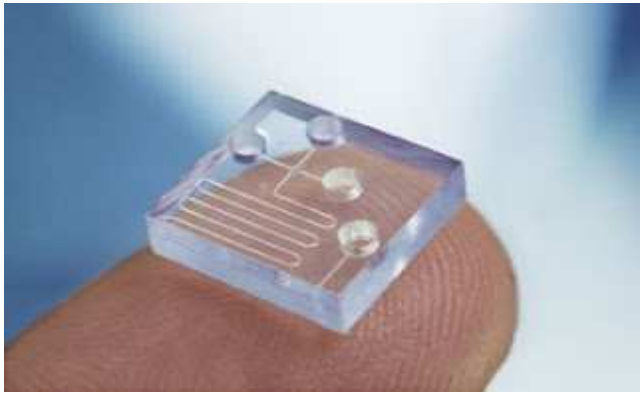
Tecnologías Convergentes…

Nanotecnología y Microfluídica



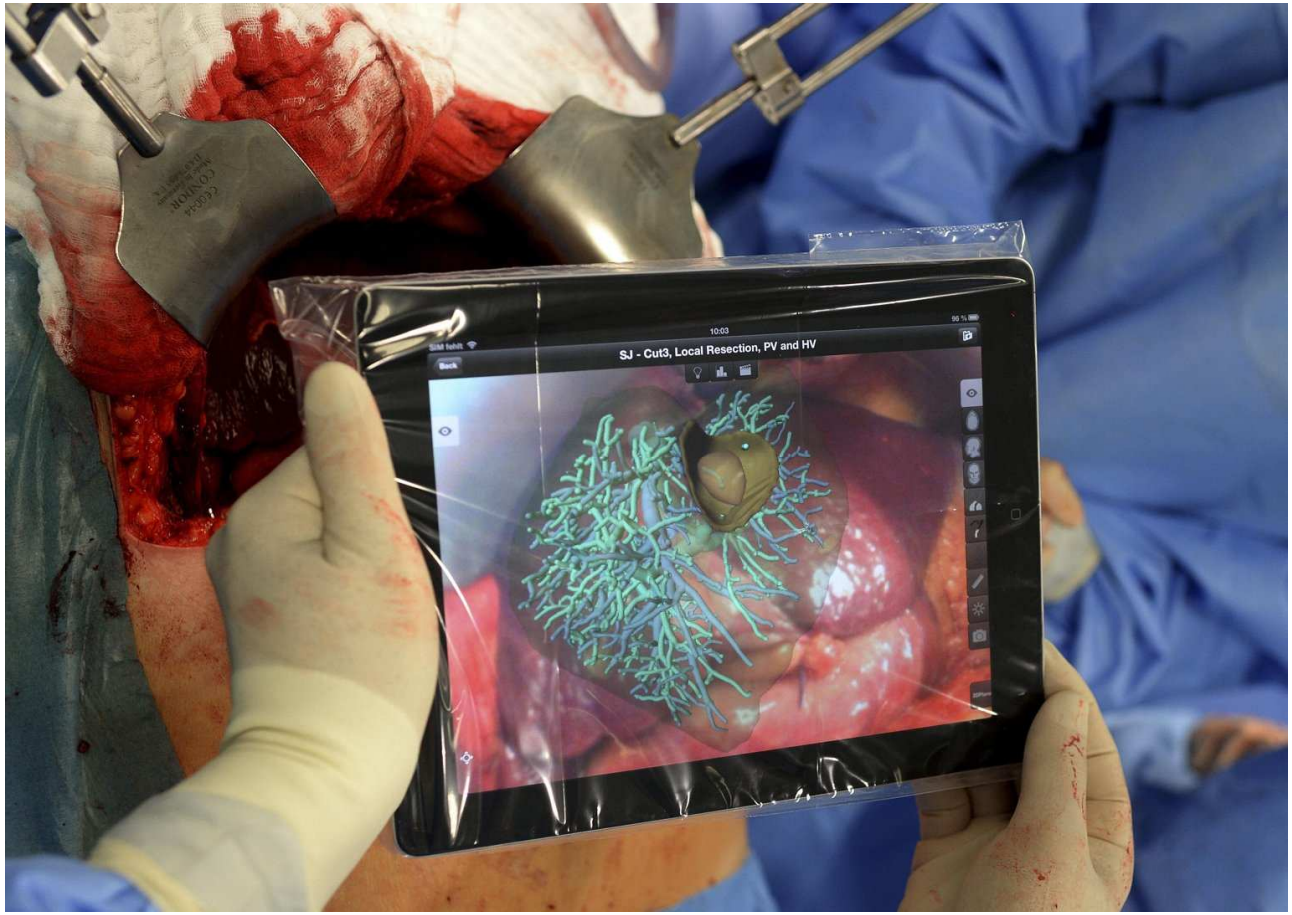






Tecnologías Convergentes…

Realidad Aumentada



Tecnologías Convergentes…

3D Printing

$3.5 billion

Amount additive manufacturing is on track to reach by 2017.*

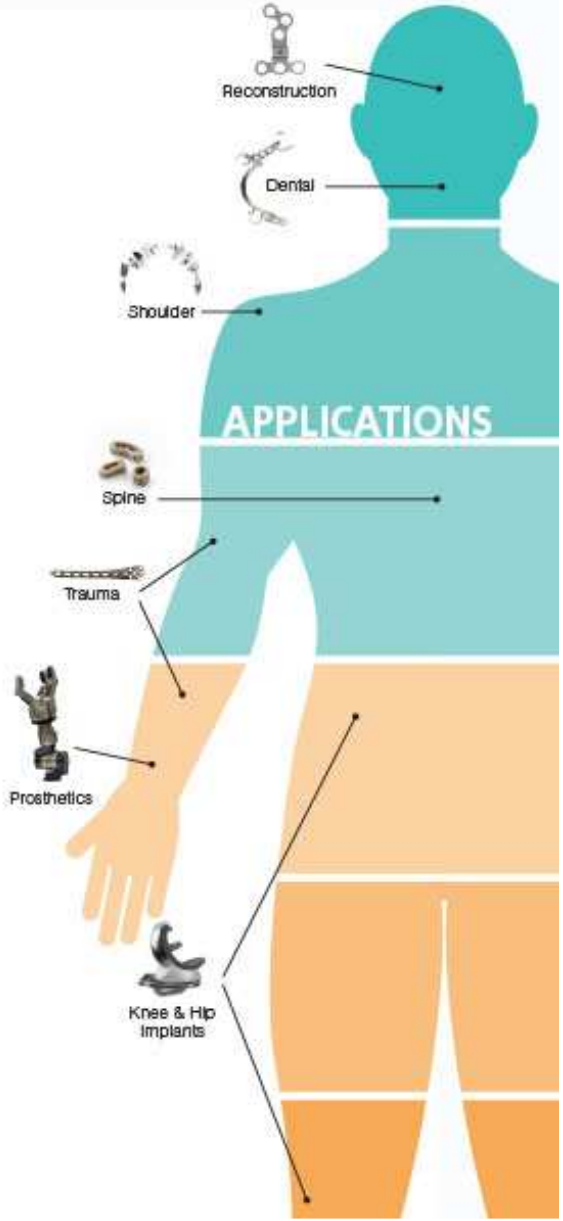
90% reduction

Additive manufacturing could reduce energy use by 50% and material costs by up to 90% compared to traditional manufacturing methods.**

$5.2 billion

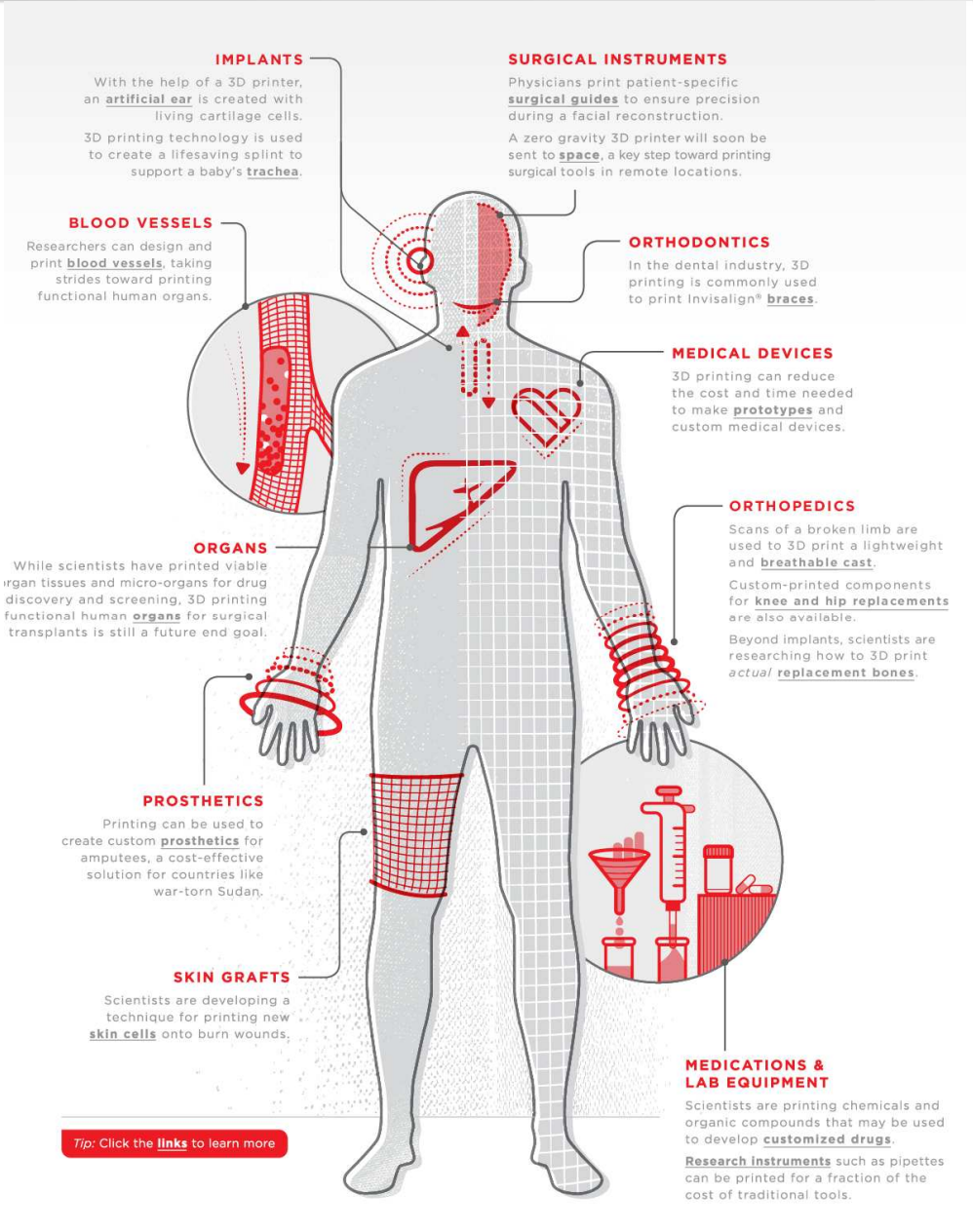
… projected worldwide additive manufacturing industry by 2020.***

Annual speed additive manufacturing is growing.*



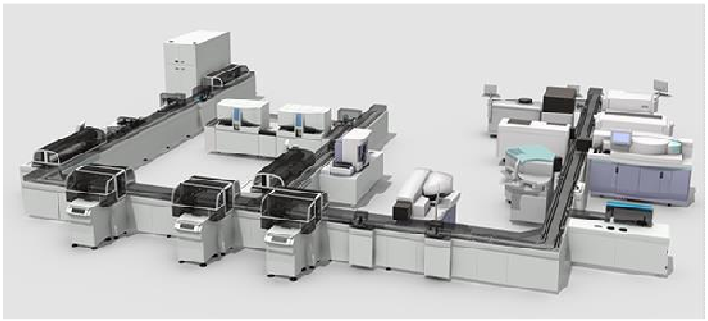
Tecnologías Convergentes…

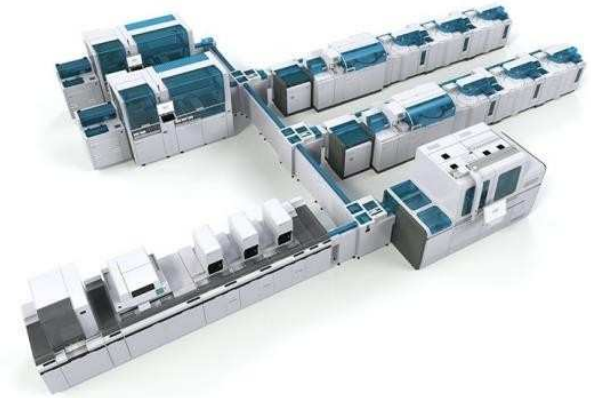
3D Printing

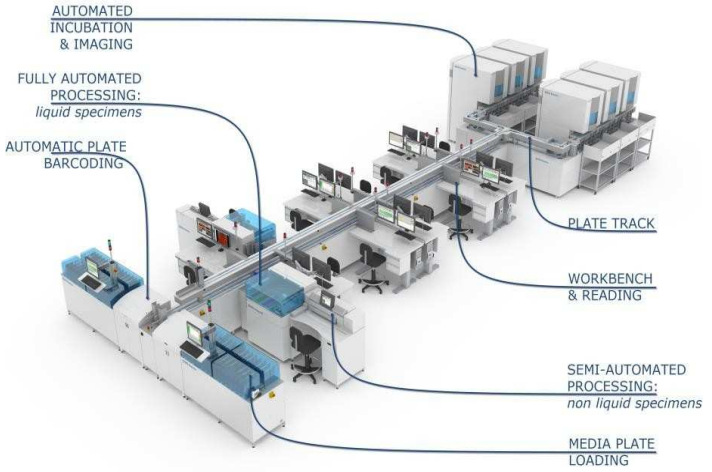


Avances Tecnológicos: Algunos ejemplos

Automatización y Robotización (pasado-presente-futuro)







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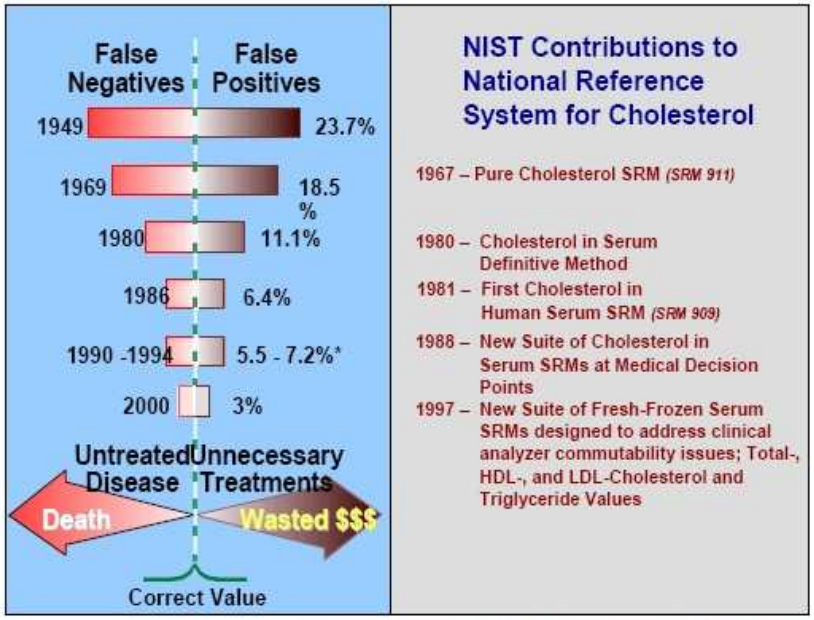


NIST Contributions to National Reference System for Cholesterol

1967 – Pure Cholesterol SRM *(SRM 911)*

1980 – Cholesterol in Serum Definitive Method

1981 – First Cholesterol in Human Serum SRM *(SRM 909)*

1988 – New Suite of Cholesterol in Serum SRMs at Medical Decision Points

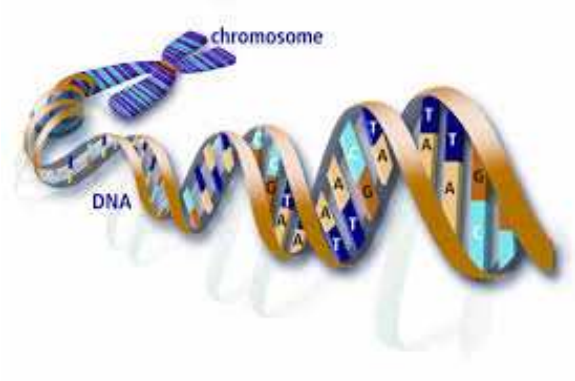
1997 – New Suite of Fresh-Frozen Serum SRMs designed to address clinical analyzer commutability issues; Total-, HDL-, and LDL-Cholesterol and Triglyceride Values

Improvement in precision since 1968 has been estimated to save $100M/yr in treatment costs

Data from U.S. Government Accounting Office and College of American Pathologists

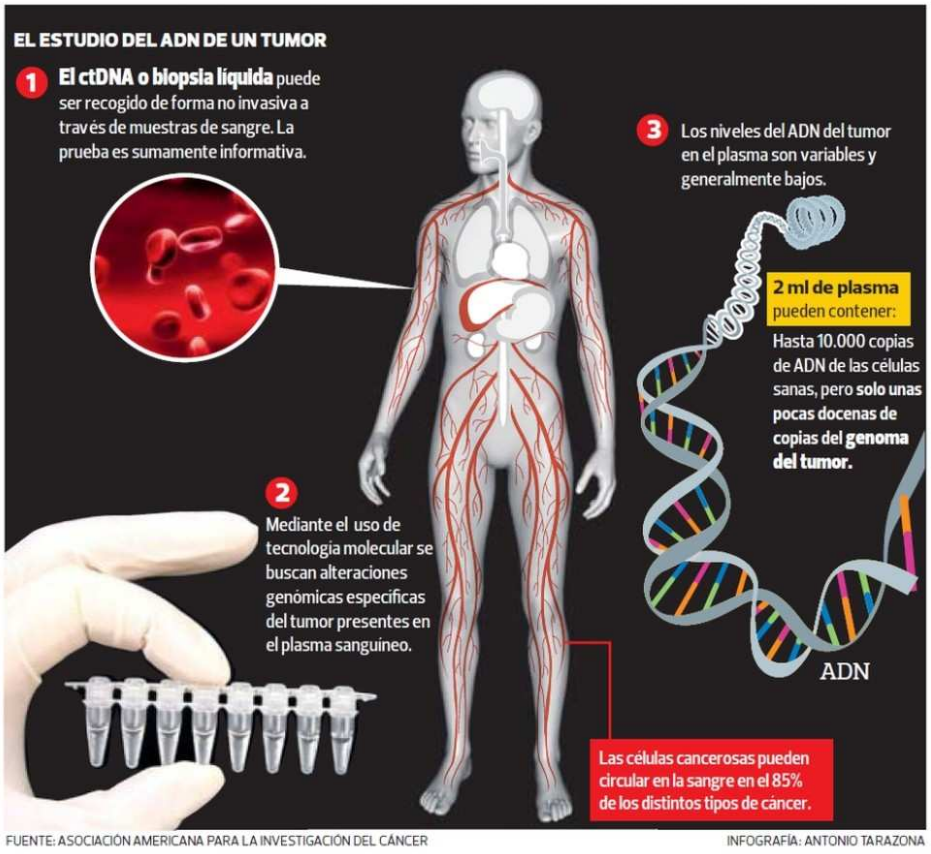
Avances Tecnológicos: Algunos ejemplos

ADN Circulante



El diagnóstico no invasivo

La búsqueda de un diagnóstico temprano del cáncer ha hecho que las investigaciones se centren en el análisis de la sangre para hallar fragmentos del ADN de un tumor (ctDNA).

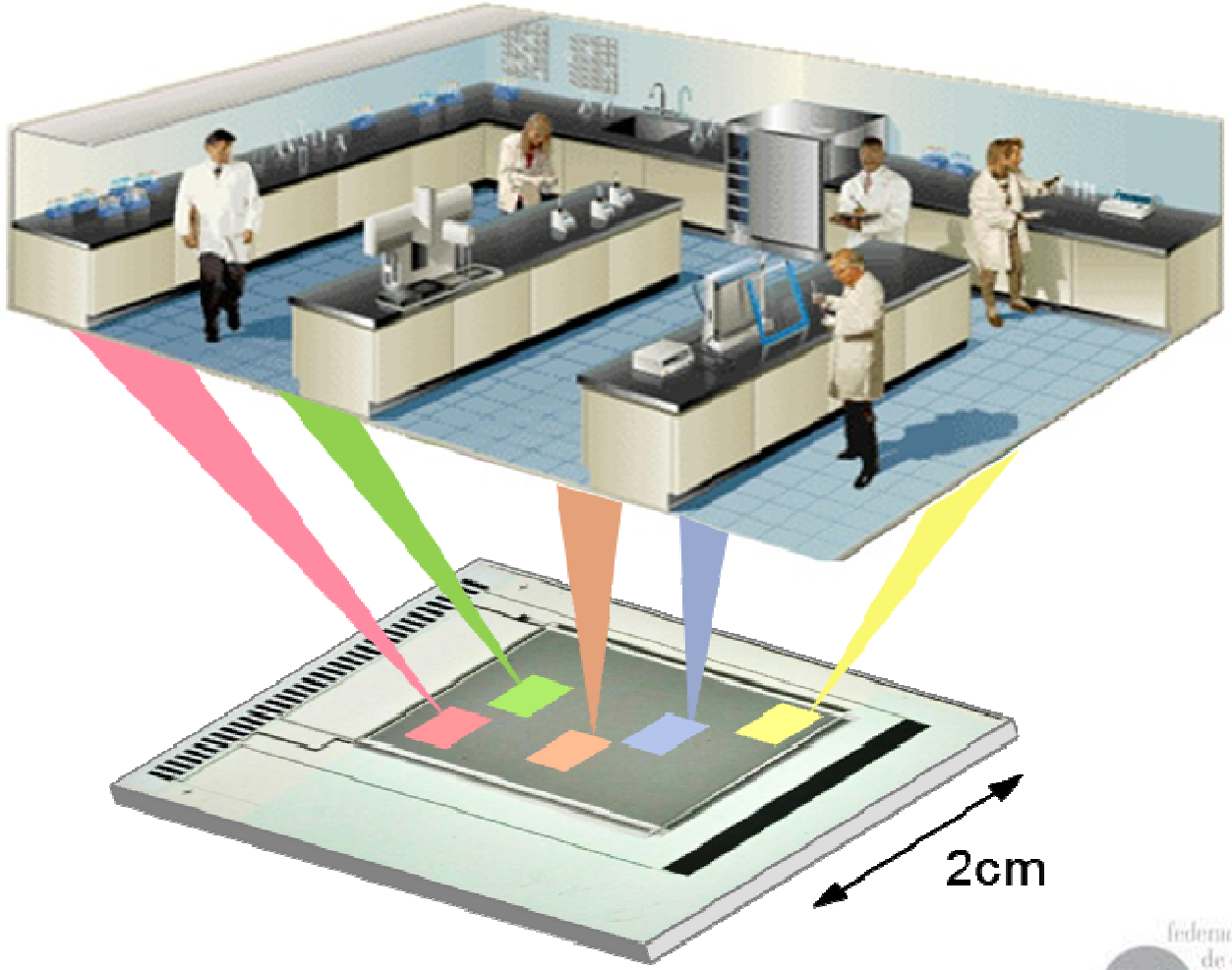


FUENTE: ASOCIACIÓN AMERICANA PARA LA INVESTIGACIÓN DEL CÁNCER

INFOGRAFÍA: ANTONIO TARAZONA

Avances Tecnológicos: Algunos ejemplos

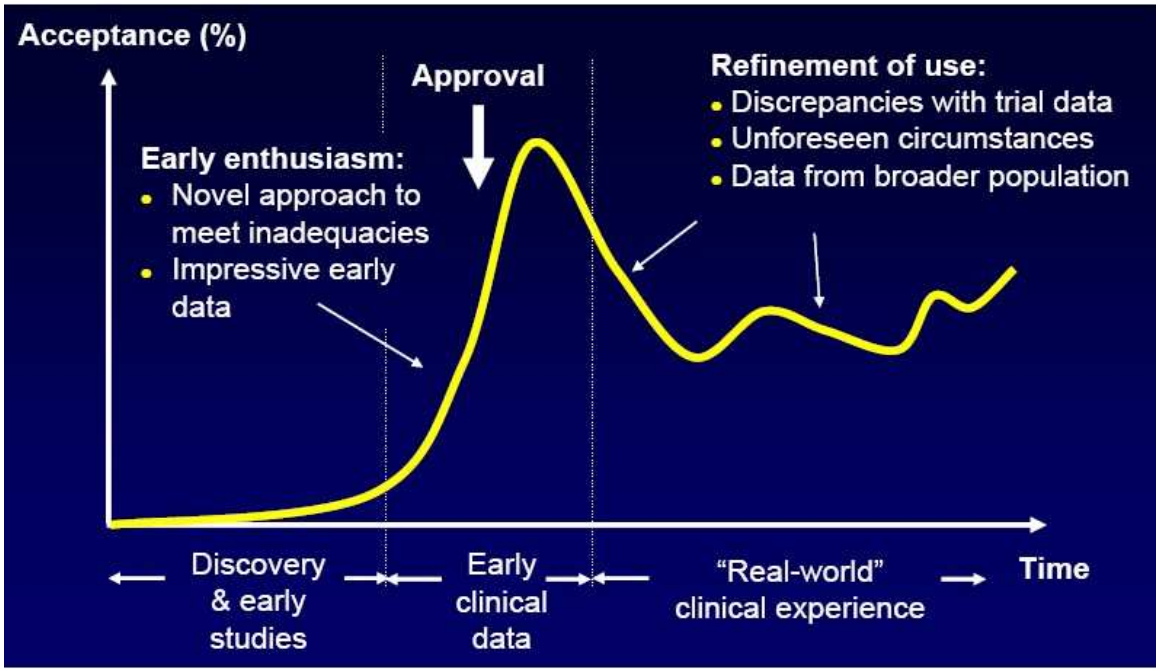
Lab on a Chip



Avances Tecnológicos: Algunos ejemplos

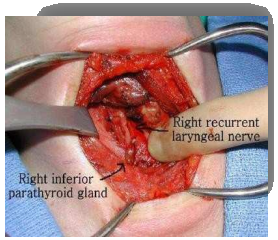
Nuevos Biomarcadores

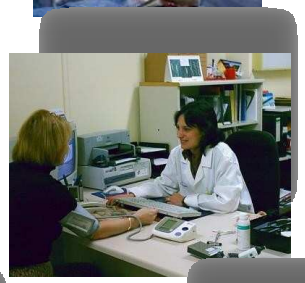
Historia natural de un nuevo test diagnóstico de laboratorio

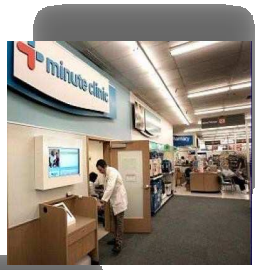


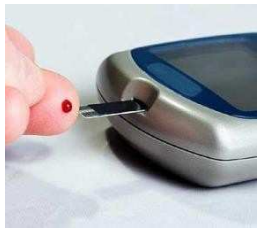
Avances Tecnológicos: Algunos ejemplos

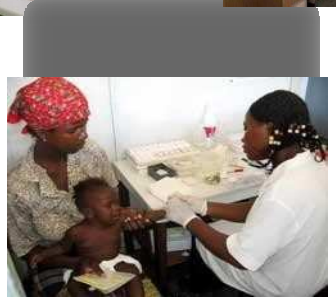
Point of Care Testing











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Avances Tecnológicos: Algunos ejemplos

Espectometría de masas

Intraoperative Tissue Identification Using Rapid Evaporative Ionization Mass Spectrometry

Júlia Balog[1,*], László Sasi-Szabó[2,*], James Kinross[3,4], Matthew R. Lewis[3], Laura J. Muirhead[3,4], Kirill Veselkov[3], Reza Mirnezami[4], Balázs Dezső[5], László Damjanovich[2], Ara Darzi[4], Jeremy K. Nicholson[3,†] and Zoltán Takáts[3,†]

Science Translational Medicine 17 Jul 2013:
Vol. 5, Issue 194, pp. 194ra93
DOI: 10.1126/scitranslmed.3005623

iKnife or intelligent knife

Combines electrosurgery with new mass spectrometry techniques

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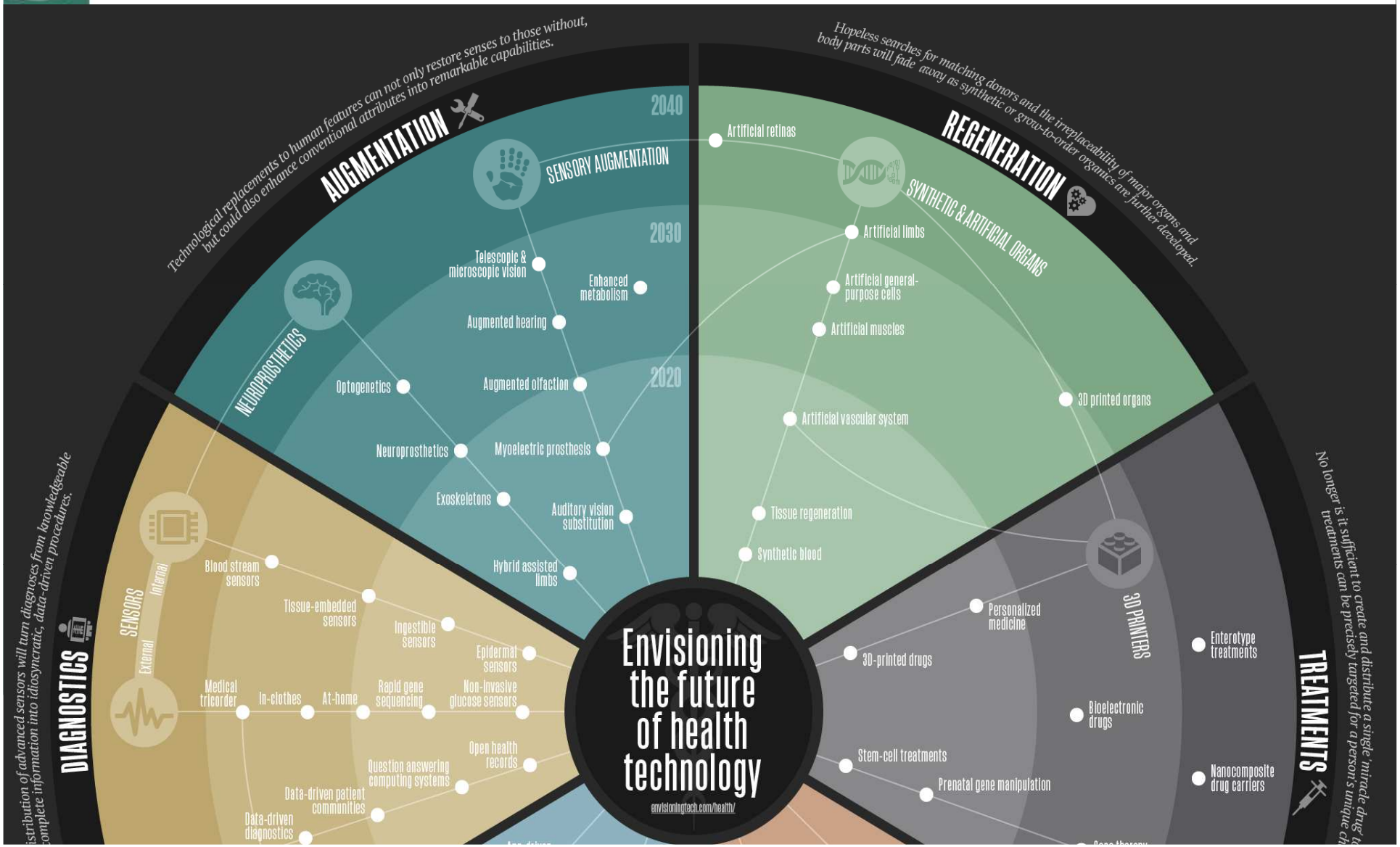
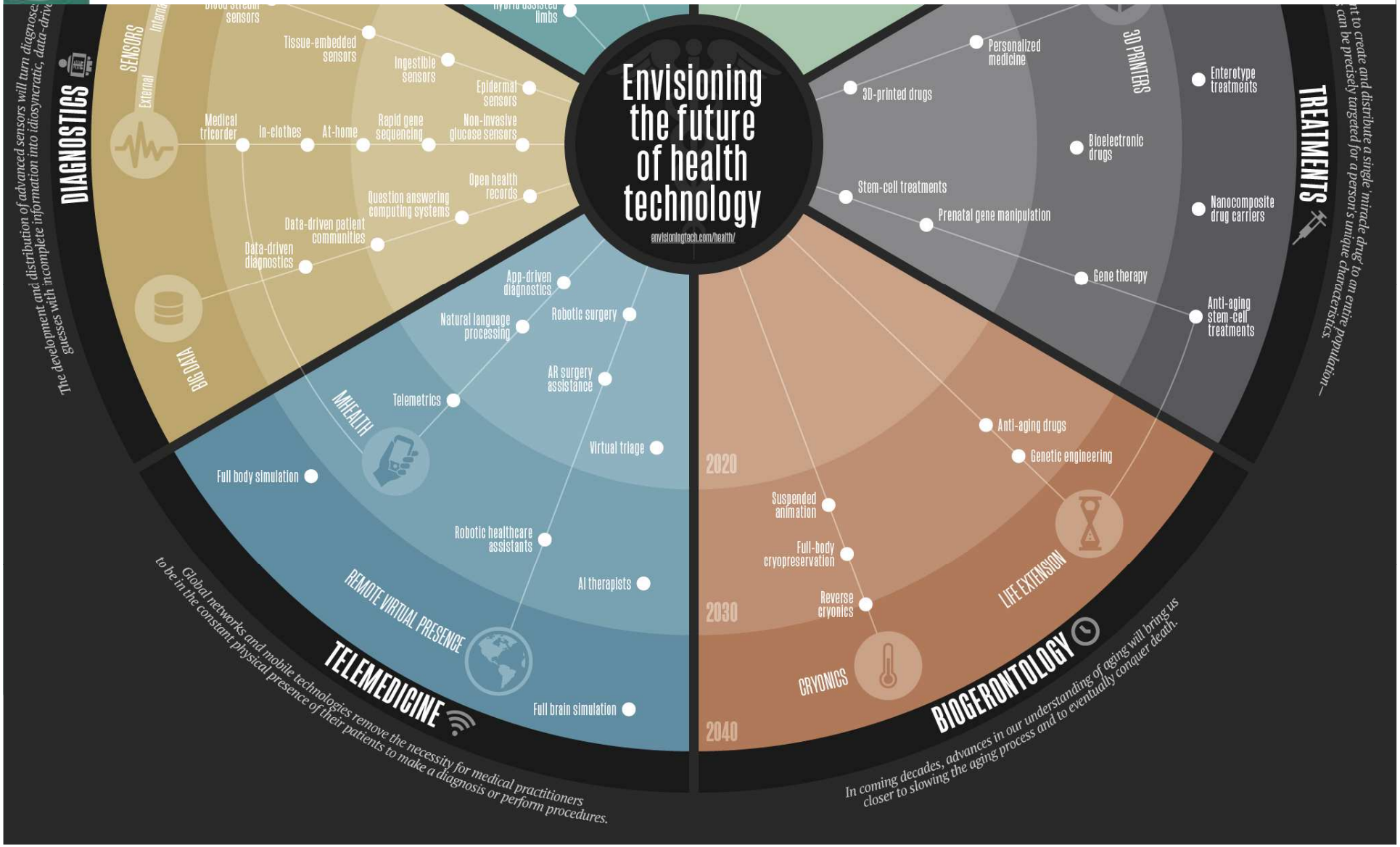
Cómo será el Futuro (I)



Cómo será el Futuro (II)



FENIN y la Innovación

federación española de empresas de fenin TECNOLOGÍA SANITARIA

Nuestro compromiso en la actualidad

1er Foro CIBER BBN Imagen Biomédica

2º Foro CIBER BBN diagnóstico y terapias en oncología

SEMICYUC
LOS PROFESIONALES DEL ENFERMO CRÍTICO

I Foro Innovación Críticos

VI Conferencia Plataformas Biomédicas

ciberes
Centro de Investigación Biomédica en Red
Enfermedades Respiratorias

I Foro Innovación CIEBERES

2º Foro Innovación Horizonte 2020 en Madrid

British Embassy Madrid

UK TRADE & INVESTMENT

2º Foro empresarial e-Health en Londres

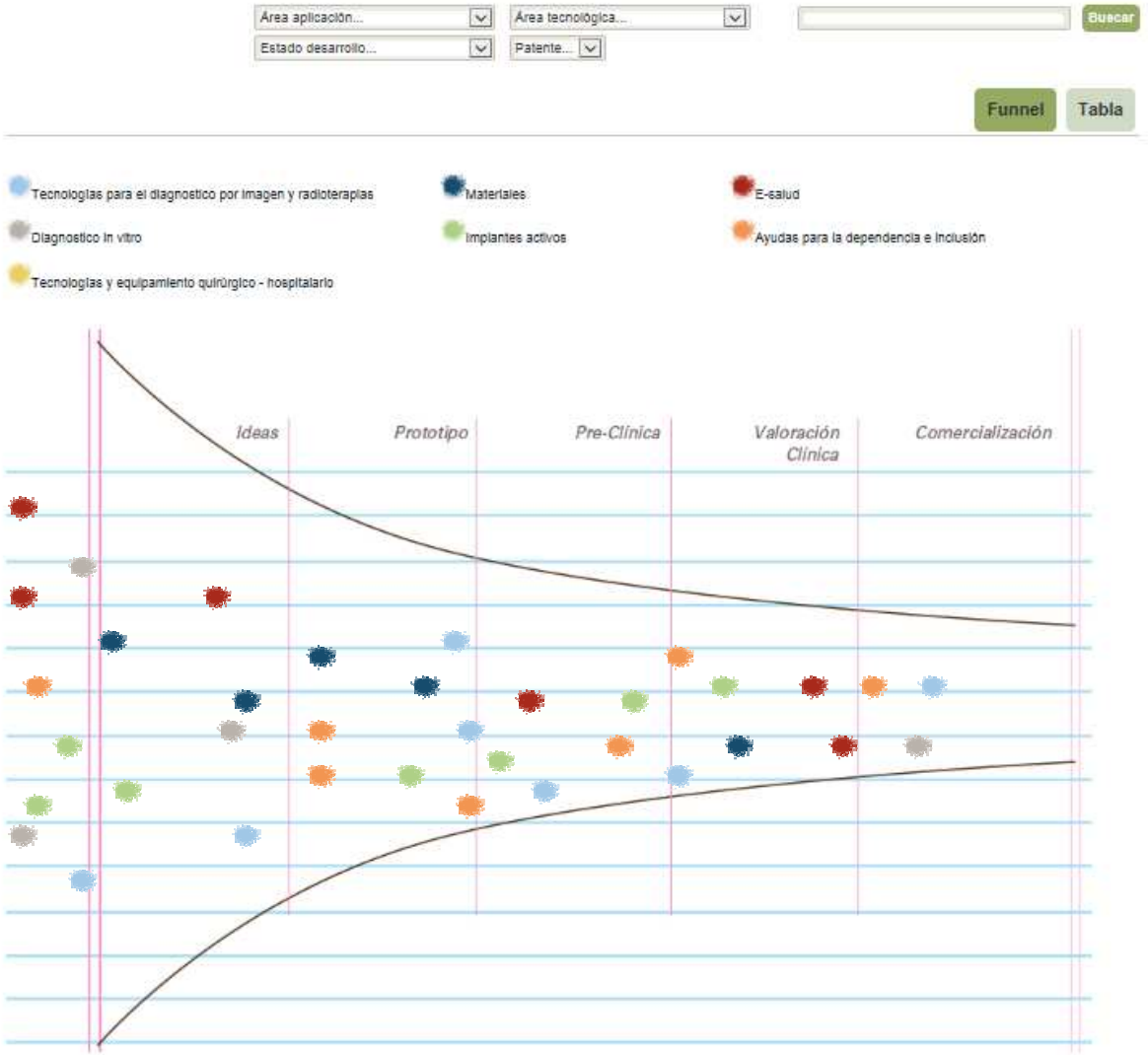
- ✓ 14 foros empresariales organizados
- ✓ 1000 Asistentes
- ✓ 392 Entidades participando en la Plataforma
- ✓ 1200 Reuniones entre los participantes
- ✓ 30 Proyectos de colaboración en marcha

federación española de empresas de TECNOLOGÍA SANITARIA

Nuestro Programa de Innovación

federación española de empresas de TECNOLOGÍA SANITARIA

Medintech



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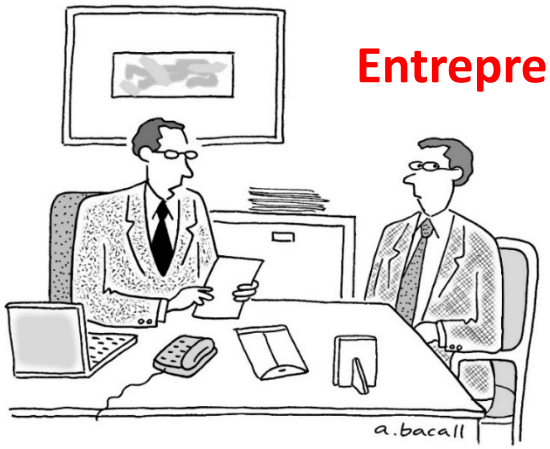
Qué significa Medintech?

Entrepreneur



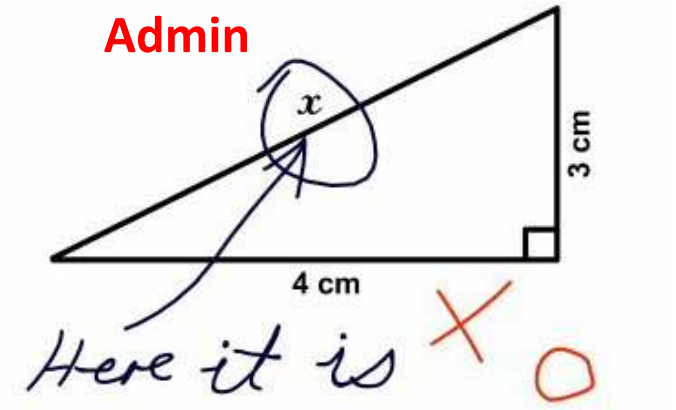
"This really is an innovative approach, but I'm afraid we can't consider it. It's never been done before."

Healthcare Professional

R&D Providers

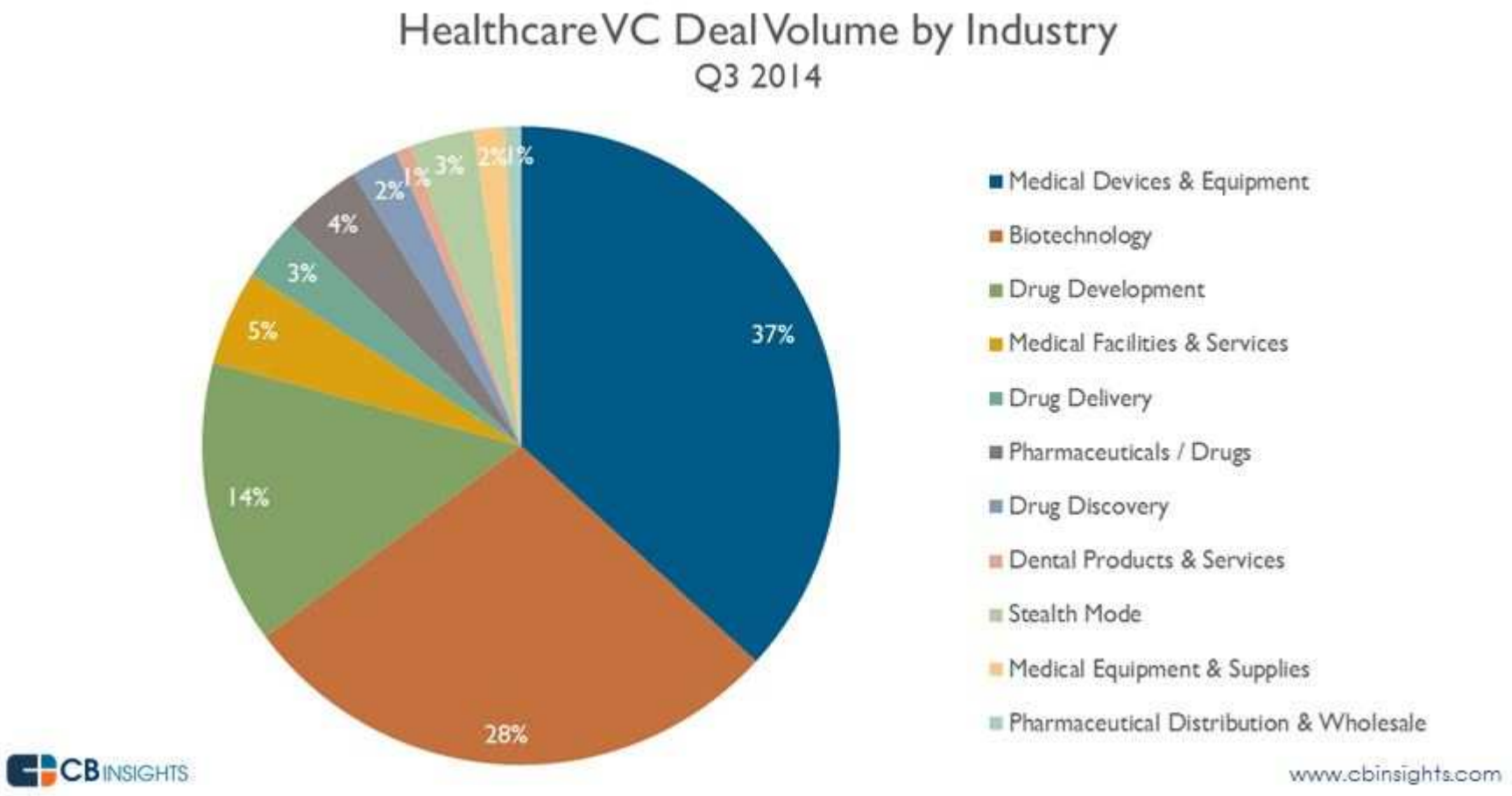
"I call my invention 'The Wheel,' but so far I've been unable to attract any venture capital."

Admin



Plataforma de Inteligencia Competitiva

Qué sectores atraen al capital privado?



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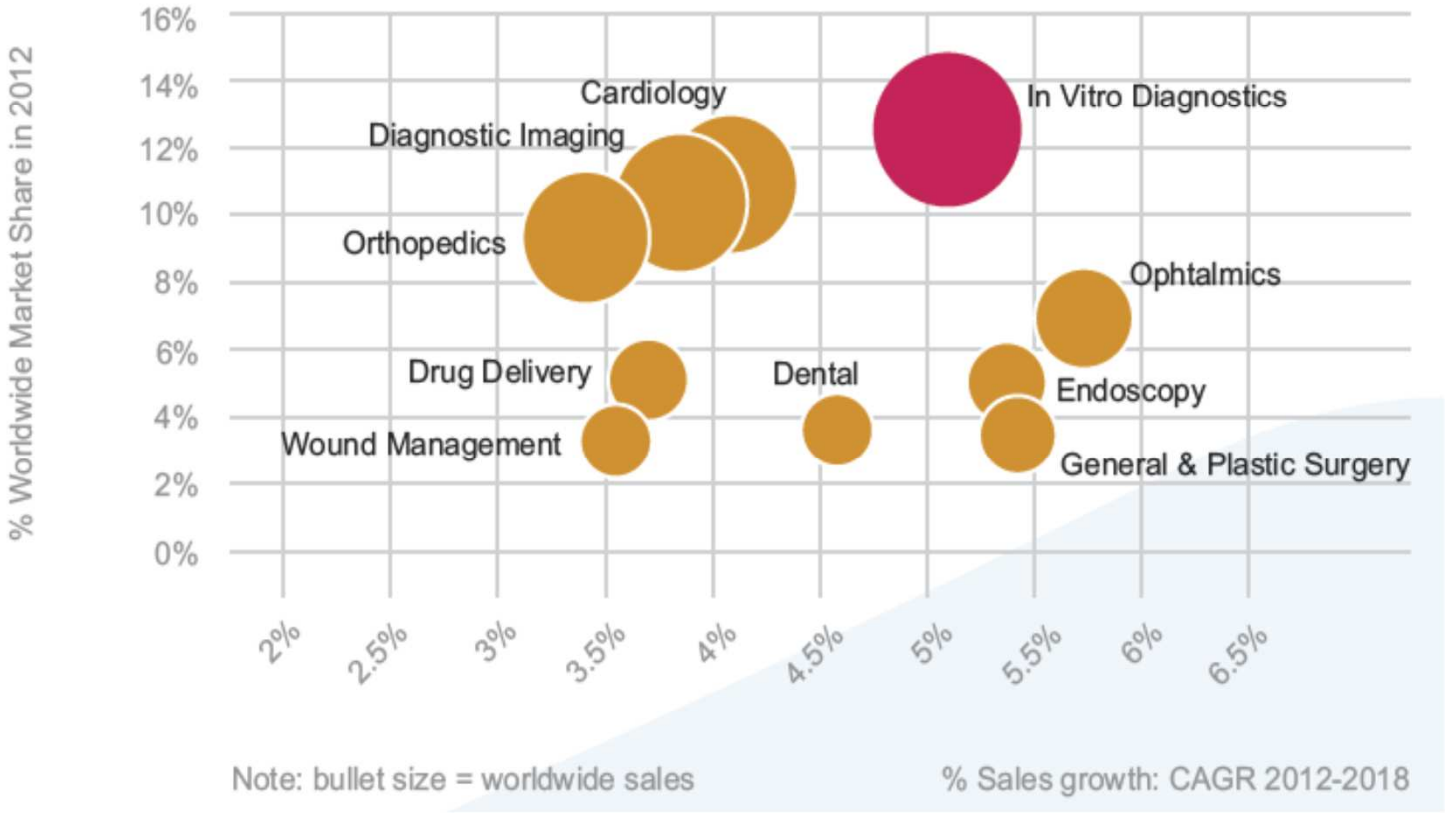
Foros de Emprendedores

federación española de empresas de TECNOLOGÍA SANITARIA

Por Qué?

World medical technology market by area and sales growth, 2012-2018 [13]



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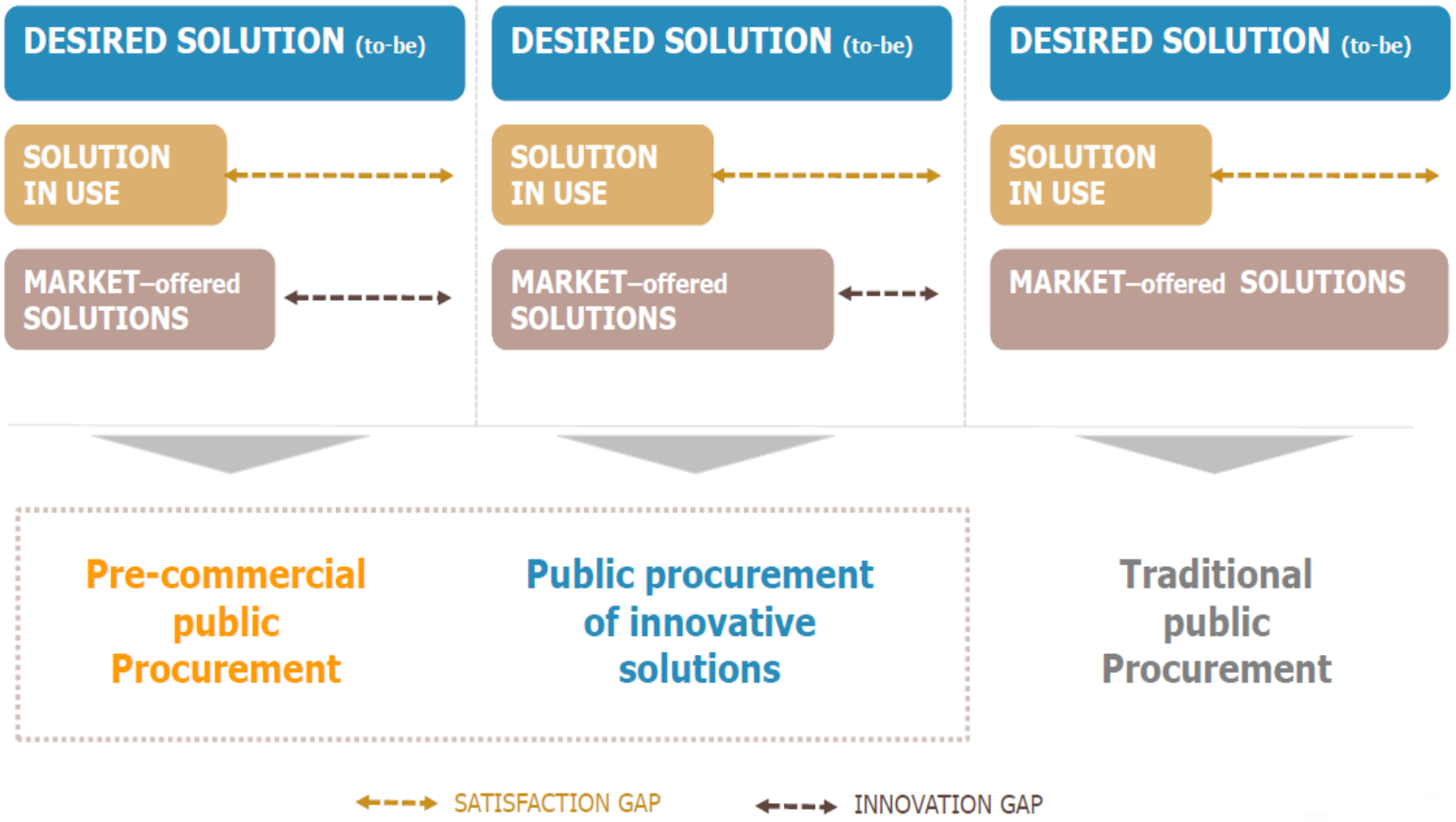
Innovative Procurement (PPI & PPC)



De forma que, al final…

Mi sueño "Made in Spain"

HOSPITAL ROOM OF TOMORROW

1 SMART PILL

Intelligent pill technology is currently being used to **diagnose digestive conditions** such as Crohn's disease and colon cancer.

2 SMARTPHONE ULTRASOUND

Researchers are working on a **handheld machine that connects via USB to a smartphone**. The device could prove life-changing in developing areas where people have little access to medical technology.

3 TAKING CONTROL

Patients will be able to raise and lower the shades in the room, order food, shut off the lights and access the Web. Prototypes are being tested.

4 MEDICAL TRICORDER

With a name borrowed from "Star Trek," this device would use technology to **collect and analyze data on patients'** health and then compare that data to electronic medical records. It also would run simulations to determine the best course of treatment. Military researchers are currently in the conceptual phase on the technology related to such a device.

5 ARTIFICIAL WOMB

Straight out of "The Matrix," tanks are filled with **amniotic fluid**, and embryonic umbilical cords are attached to pumps that regulate **nutrient intake and waste production**. Such methods have been used for some animals, but they are still a theoretical possibility for use with human babies.

STEP INTO THE HOSPITAL ROOM OF THE FUTURE – OK, SO MAYBE ALL OF THESE COOL GADGETS WON'T BE IN ONE HOSPITAL ROOM (AND CERTAINLY NOT BY TOMORROW), BUT ADVANCES IN MEDICAL SCIENCE AND TECHNOLOGY PROMISE TO PROVIDE YOU WITH BETTER MEDICINE AND A MORE PLEASURABLE EXPERIENCE.

6 HEALTH DISPLAY

With the swipe of a card, **patient information will be displayed on a computer** monitor in the room. Doctors will see data they need to know (such as the full medical record). **Nurses will see information pertinent** to their jobs (like medical history and care requirements). Housekeeping staff will see information that helps them do their jobs. Prototypes are being tested.

7 CENTRALIZED IV SYSTEM

Nurses no longer will need to program your IV manually, as a **centralized system** at the nurse's station or elsewhere **will program them all automatically**.

8 SMARTBED

Without you being hooked up to 25 monitors, **your bed will track key health information**: Temperature, blood pressure, heart rate while you sleep. The information could then be sent wirelessly to health care providers' cellphones or email. Project is in developmental stages in Europe.

9 ORGAN PRINTER

A complex 3D printing process can create tissue adequate for transplantation, bypassing the potentially lengthy process of waiting for an acceptable donor. While such devices aren't in use now to create full organs, some of the biological material they can produce has been used to help patients.

10 ROBOTIC SURGEONS

These guys have been around since the late 1980s, but they are seeing increasing usage in heart, intestinal, brain, pediatric and orthopedic surgery. **Robotic "doctors" mirror human arms, allowing repetitive, controlled actions.**

11 MEMORY RESTORATION

This military project is aimed at **restoring memory** by bypassing brain injuries. The theory is that injured soldiers would be able to return to the battlefield with improved performance. Researchers also hope the project will improve overall knowledge of short-term memory and brain functions.

12 MEDICATION SECURITY

A medication dispensing system **will use bar codes and scanning technology** to reduce medication errors.

BETTER DRUGS

Research into **gene therapy will provide personalized medication like never before**. Your doctor will have access to your **complete genome**, so she'll be able to predict possible drug interactions and your body's reaction to potential treatments. Toxic reactions to drugs will plummet. Much of this work already is under way, and researchers predict many of the most life-changing advances will come in the next decade or so.

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Análisis Coste-Beneficio

Por cada euro invertido en tecnologías médicas se obtiene un beneficio en términos de reducción de la estancia hospitalaria, reducción de la tasa de morbilidad y descenso del número de defunciones de:

- ✓ **1,47 € en enfermedades cardiovasculares**
- ✓ **1,36 € en enfermedades oncológicas (sin contar tto.)**
- ✓ **1,11 € para las enfermedades neurológicas**

Informe "*Aportación de valor de las tecnologías en el sector sanitario". PWC 2014.*


"No es la especie más fuerte la que sobrevive, ni la más inteligente, sino la que responde mejor al cambio."
- Charles Darwin

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Muchas gracias!

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Por lo tanto…